WORLD'S COLUMBIAN EXPOSITION,
CHICAGO, ILLS., 1892-'93.

WAR DEPARTMENT EXHIBIT.

MEDICAL DEPARTMENT UNITED STATES ARMY.

No. 1.

DESCRIPTION

OF THE

MODELS OF HOSPITALS.

BY DIRECTION OF THE SURGEON-GENERAL, U. S. A.

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IN CHARGE OF THE REPRESENTATION OF THE MEDICAL DEPARTMENT, U. S. A.

CHICAGO, ILLS.
1892-'93.

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WORLD'S COLUMBIAN EXPOSITION,

CHICAGO, ILLINOIS, 1892–'93.

MEDICAL DEPARTMENT, UNITED STATES ARMY.

Descriptions of Models of Hospitals.

1.—MODEL OF BRICK REGULATION U. S. A. HOSPITAL, FOR 24 BEDS.

This model, which was constructed by Mr. Charles Seltman, of Washington, D. C., is, including the base, 4 feet 7 inches long by 3 feet 2 inches wide, and was made on a scale of half an inch to the foot. It shows a quarter section of the building made in accordance with plans and specifications contained in appendix to Circular 10, War Department, S. G. O., October 20, 1888.

The hospital consists of a central administration building arranged with two wards as wings, and a separate building in the rear containing kitchen, dining-room, isolation ward, and attendants' quarters. Each ward will be 42 feet 1 inch long by 24 feet 4 inches wide inside, and 14 feet high in the clear from floor to ceiling. For very cold climates the height may be reduced to 12 feet.

In all cases the ground floor must be raised at least 18 inches from the ground: and in warm climates and malarious regions it should be at least 3 feet above the ground.

The administration building will be 42 feet 10 inches by 42 feet 6 inches, with cellar, two stories, and an attic. The first floor is divided into four rooms by two halls, one 7 feet 6 inches, the other 6 feet wide, running from front to rear and from ward to ward. The two front rooms are used, one for an office, the other for a dispensary; the rear rooms, one for waiting-room, the other for bath-room and water-closets. The second floor has a store-room and four attendants' rooms.

The rear building is 47 feet 6 inches by 21 feet, and consists of cellar and first and second floors. On the first floor is the dining-room, pantry and kitchen; on the second floor, the isolation ward, bath-room, and attendant's room. The administration and rear buildings are connected by a covered passage-way 6 feet wide, and the entire administration

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building and its two wings are surrounded by a veranda 10 feet wide, except along the rear of the administration building, where the veranda is only 6 feet wide.

All exterior walls of cellars and foundations of wards and administration buildings to be 21 inches thick. All exterior walls of wards to be hollow; 9-inch exterior shell, 2-inch air space, 4-inch inner shell and 1-inch plastering, making a total thickness of 16 inches; the air space to be made as nearly air-tight as possible.

The steam-heating apparatus, located in the cellar of the rear building, from which the heat is distributed through the rear building and under the floor of the covered passage-way to the main building, is one horizontal tubular steam boiler, 9 feet long, 36 inches in diameter, containing 30 tubes $2\frac{1}{2}$ inches in diameter and 9 feet long.

The method of heating, as shown on the model, is by indirect radiation for the wards. and direct radiation for other rooms. The radiators are constructed of one-inch wrought-iron pipe. The indirect radiators are enclosed in galvanized-iron chambers. Each chamber is fitted with cast-iron doors, one above and one below the radiators. From these radiators flues of galvanized iron open into the wards, the heating chamber being supplied through galvanized-iron ducts, which are fitted with damper and rod for controlling the supply of cold air. The movement of air is effected by aspiration chimneys for the wards and by open fireplaces and chimney flues for other rooms.

The model shows the position of main flow and return pipes. These vary in size according to the size of the wards. All the exposed main and return pipes in the basement are covered with $\frac{3}{4}$-inch asbestos-lined hair felting with two thicknesses of heavy manila paper and 10-ounce canvas. An automatic self-acting air valve is placed on each indirect radiator and at the foot of each return riser. All condensation from the heating apparatus is returned to the boiler by gravitation without the use of steam traps.

2.—Model of the Regulation U. S. A. Post Hospital of 24 Beds.

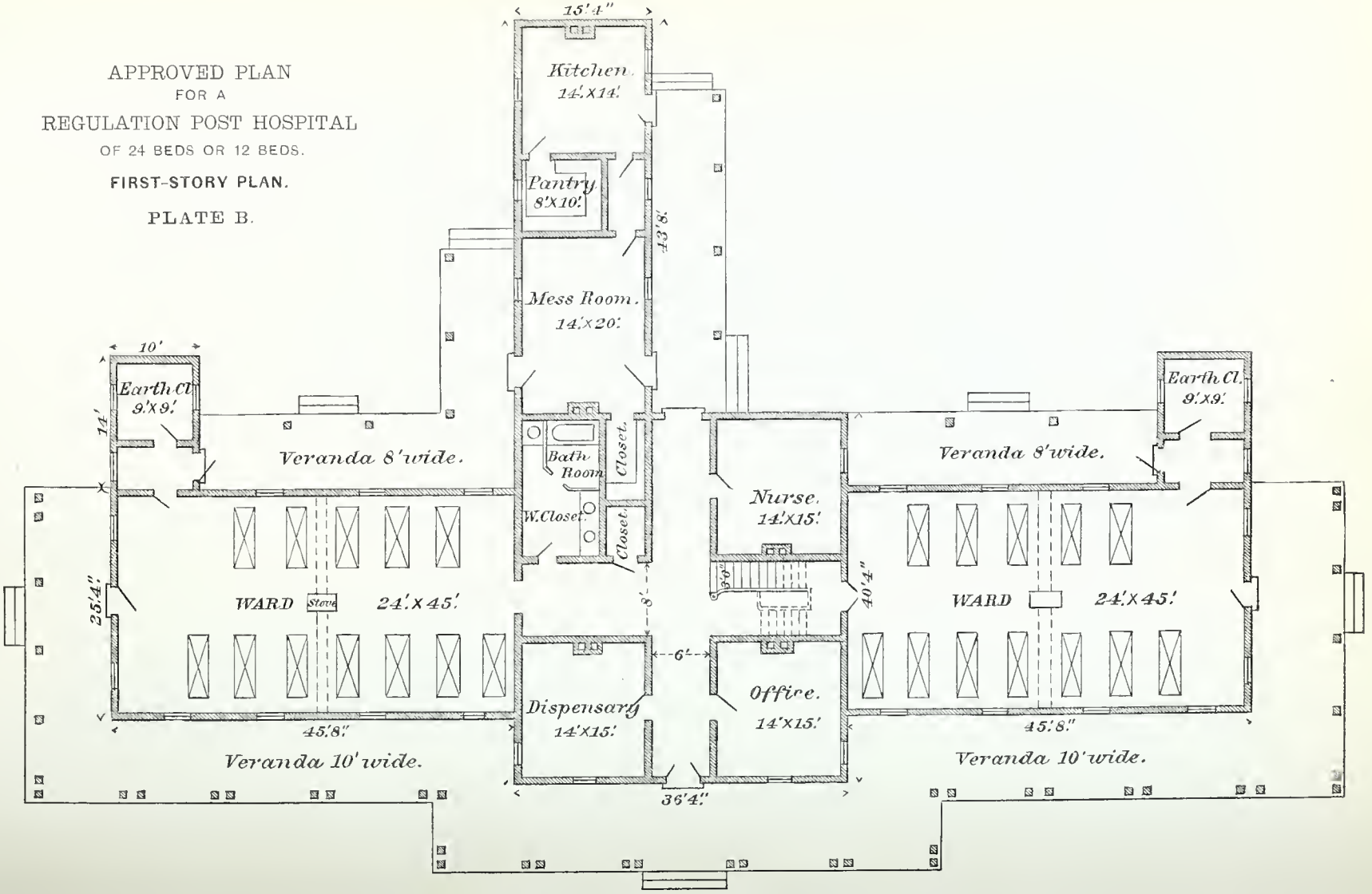
This model was constructed by Mr. Charles Seltman, of Washington, D. C., on a scale of half an inch to the foot. It is, including the base, 7 feet 2 inches long by 4 feet 5 inches wide, and has been built in exact accordance with the plans and specifications contained in Circular No. 10, War Department, Surgeon-General's Office, October 20, 1877 (rendered authoritative by General Orders No. 98, Headquarters of the Army, Adjutant-General's Office, Washington, October 20, 1877), from which the following description has been taken:

Front Elevation.

DRAWING OF THE MODEL OF THE REGULATION U. S. A. POST HOSPITAL OF 24 BEDS

PLATE A.

APPROVED PLAN
FOR A
REGULATION POST HOSPITAL
OF 24 BEDS OR 12 BEDS.
FIRST-STORY PLAN.
PLATE B.



APPROVED PLAN

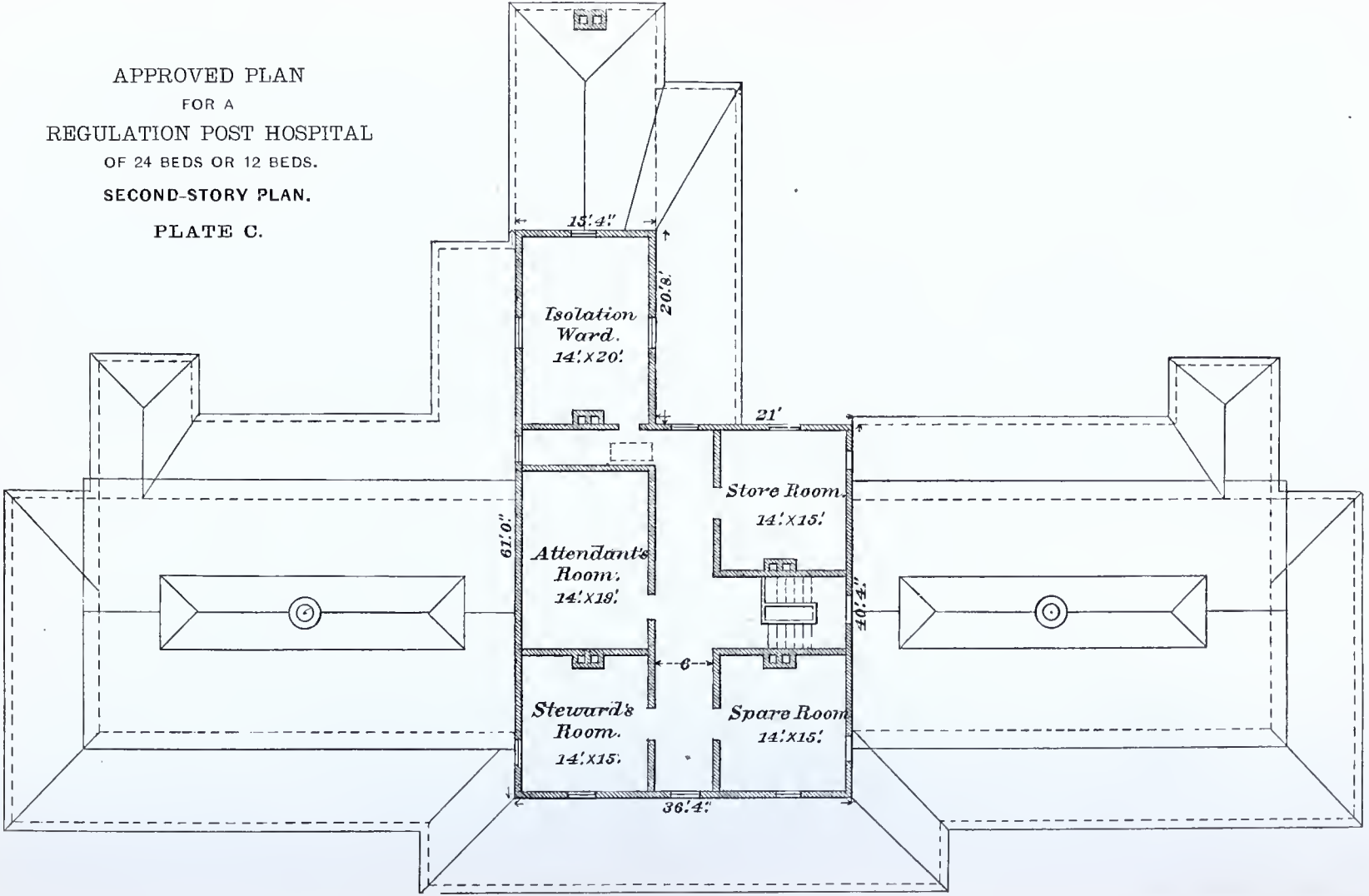
FOR A

REGULATION POST HOSPITAL

OF 24 BEDS OR 12 BEDS.

SECOND-STORY PLAN.

PLATE C.



1.—Approved Plan for a Regulation Post Hospital for 24 Beds.

"This hospital consists of a central administration building and two wards arranged as wings.

"The wing for each ward will be 45 feet 8 inches long by 25 feet 4 inches wide and 15 feet high in the clear from floor to ceiling. For very cold climates the height may be reduced to 12 feet, in which case the length will be increased to 50 feet.

"Attached to each ward, and at the outer end and behind, will be a room for earth closets, as shown in the plans.

"The administration building will be 36 feet 4 inches front by 40 feet 4 inches deep, and two stories high, with a back building 43 feet 8 inches by 15 feet 4 inches. Each story of this building will be 13 feet high from floor to ceiling.

"A veranda 10 feet wide will surround the hospital, as shown in plans.

"In hot climates the wards will be detached from main building, remaining connected with it by the veranda only, which will thus entirely surround the ward. (The ward on the left hand side of model has been so detached. See drawing, Plate A.) The back building will be separated in like manner.

"The plan of the first floor, the designations and dimensions of rooms, and the positions of doors, chimneys, windows, and beds are shown on Plate B, the plan and dimensions of the second floor on Plate C. (For front elevation of building see Plate A.) All of the exterior walls will be rough boarded, with inch boarding, well nailed, on which will be laid a covering of tar paper or felt. A cistern out of 1½-inch dressed stuff, dovetailed and strongly put together with lead, will be put over ceiling, when directed, 5 by 5 by 2 feet deep, supplied by a pump in sunk cistern through a 1½-inch pipe. The roofs of verandas will be trimmed with best roofing tin. A 20 by 8 inch galvanized-iron ventilating pipe, for ventilation of ward, running between joists, open under floor of veranda, having 2 regulating registers at ends of pipe. On the centre of this pipe, on the upper surface, should be an opening 20 inches square corresponding with a similar opening in the floor of the ward, over which a jacketed stove may be placed.

"In all cases the ground floor must be raised at least 18 inches from the ground. On the Gulf coast and in Arizona the wards will not be ceiled and will have ridge ventilation their whole length. (The left-hand ward in the model has been thus constructed.)

"At all posts where continuous artificial heat is required for three months in the year, the walls will be ceiled and have boxed openings

carried from the centre of the ceiling to the ridge for summer ventilation. There will be two of these openings, each 10 feet long by 2½ feet wide, and 10 feet apart, each fitted below with lattice work and above with movable shutters. (The right-hand ward in the model has been so constructed.) A ventilating shaft 6 inches square will be placed in each earth-closet room, and the lamp or gas burner of this room should be directly beneath this shaft."

3.—Model of the Lincoln Hospital, Washington, D. C.

This is a block model, on the scale of 30 feet to the inch, and represents the arrangements of the wards and other buildings of this hospital, of which the following description was furnished by Surgeon J. C. McKee, U. S. A., who was for a long time in charge:

Lincoln Hospital, Washington, D. C., is located about a mile east of the Capitol building. Its site is a gently-undulating, uncultivated plain, without shade-trees. East and south of the hospital, the plain declines toward the Eastern Branch of the Potomac, which is about half a mile distant. The soil is a light, sandy loam, resting on a deep stratum of gravel. The hospital covers an area of thirty acres of ground, and consists of twenty detached pavilion wards, arranged "en echelon" in the shape of the letter V, the apex of which looks westwardly. The administration building is at the apex of the V. The buildings for kitchen, dining-rooms, etc., are in the space between the two sides of the letter. The whole is surrounded by a picket-fence, five feet high, between which and the wards is a wide road for ambulances. (See Figure 1.)

The *Wards* are pavilion barracks, built of rough boards, white-washed, with roofs of boards covered with tarred paper; they are 20 in number, 10 on each wing. Each ward is 187 feet by 24, 16 feet to the eaves and 20 to the ridge, at which there is the usual ridge-ventilation the whole length of the ward. They are plastered on the inside for about 8 feet above the floor. At the west end of each are 4 rooms, occupyiug 15 feet iu length. These are used for clothing, baths, nurses, and sinks. Each ward contains 34 windows and 4 doors, one at each end and two in the middle, opposite each other. Four ventilating gratings, at regular distances in the floor of the ward, communicate by woodeu flues under the floor with the air outside, thus giving a full supply of fresh air whenever the weather requires the doors and windows to be closed. With 62 patients, there are 72 square feet of floor and 1447 cubic feet of air-space for each. Thirty-one beds are arranged on each side, with a chair and bed-side table between each pair. An avenue of 11 feet is left between the two rows of beds. The wards are lighted at night by kerosene lamps, and heated by stoves in winter. On the inner side of the two wings of the hospital, and running the whole length of each, is a raised covered walk or corridor, on which is laid a railway track 2 feet wide and 2156 feet long. Box-cars convey the food from the main and extra kitchens to each ward.

The *Administration building*, at the apex of the triangle, is 184 by 38 feet, 22 feet to the ridge and 16 to the eaves. A hall, 8 feet wide, runs the entire length of the first floor. On the left side of the hall are the following rooms: office of surgeon in charge, 14 by 14; office of military assistant, 11 by 14 (employs two clerks); principal office, 56 by 14 (employs fourteen clerks); printing office, 19 by 14 (employs two men); quartermaster's store-room for clothing, etc., 44 by 14 (employs two clerks); wardmaster's room, 13½ by 14; bath-room, 4¾ by 14; post-office, 7 by 14 (employs a postmaster and assistant). On the other side of the hall, and on the right of the entrance door, are the office of the officer of the day, 15 by 14; office of the officer of the guard, 11 by 14 (four clerks); office of surgical records, 11 by 14 (one clerk); private office of surgeon in charge, 12½ by 14; office of medical inspector, 11 by 14; linen-room, 66 by 14; all washed clothing and bed-linen is sent

from the laundry to this room, and thence distributed to the different wardmasters; one clerk and four women are employed here, the latter in mending, etc. The medical store-room, 11 by 14, adjoins the dispensary, and is used for storing supplies. The dispensary, 25 by 14, usually employs four men; the medicines for the whole hospital are compounded here, under the charge of a hospital steward. Lastly, the laboratory, which adjoins the dispensary, is 22 by 14 feet, used for preparing tinctures, ointments, plasters, etc.

On the second floor of the administration building is the knapsack-room, 111 by 37 feet. The effects, accoutrements, etc., of the patients coming into the hospital are deposited in this room for safe keeping. It employs two men, who receive the articles deposited, issue tickets for the same, credit them to depositors, and deliver them when the patients leave. There are 2184 boxes, arranged in parallel rows, reaching from the floor to the ceiling. Adjoining the knapsack-room is the extra-duty men's room, 50 by 37 feet, used as a sleeping-room by the men employed on extra duty, and a clerk's room, 25 by 23 feet, used by the clerks of the principal office for the same purpose.

Within the triangle formed by the two wings, and east of the administration building, is the *Tank*, resting upon a platform 25 feet high, and holding 12,000 gallons of water. It is supplied from a well under the engine-room, and the water forced into it by the engine, which drives the machinery of the laundry. This tank supplies each ward with water by means of pipes. There are four other wells in the enclosure, used for drinking and culinary purposes.

Twenty yards east of the tank is the *Laundry*, 61 by 24 feet. The building runs east and west, is two stories high, and has a platform for drying clothes on the roof. Seven men and twelve women are employed in its various departments. The washing is done by steam-power, as is also the drying and ironing. The average wash is 5000 pieces daily—has been pushed to 7000. On the first floor of the laundry is the washing apparatus, consisting of a mangle, steam-boiler, revolving drum for wringing, rinsing-boxes, roller and ironing table: on the second floor is the steam drying-room, 36 by 12½ feet. This is in addition to the drying arrangements on the roof. Separated by a partition from the laundry, on the first floor, is a sleeping-room for women, 22 by 24 feet; a kitchen for the same, 9½ by 17; a dining-room, 9½ by 18. The engine is in a building adjoining the laundry on the east; it is of six-horse power, and employs one engineer and an assistant. It supplies power for the tank as well as for the laundry. The well which supplies the tank is 40 feet deep, with usually 4 feet of water; its diameter is 6 feet. The steam pump can raise 2000 gallons of water per hour.

The building for *Sisters' Quarters* is 23 by 51 feet, with a wing 16 by 28, forming a letter "L." It is divided into chapel, sitting-room, kitchen, etc. Twenty-eight Sisters of Charity were on duty, and I must bear evidence to their efficiency and superiority as nurses. The extra-diet kitchen is under the care of a sister, and one is detailed by the superior for each ward. They administer medicine, diet, and stimulants, are under the orders of the ward surgeon, and are responsible to him alone. They have been beloved and respected by the men.

The *Stewards' Quarters* are 18 feet north of the engine-room, are two stories high—contain dining-room, kitchen, sleeping-rooms, etc. Five stewards generally occupied this building.

The *Operating-room* is 25 feet east of the engine-room. It is 17 feet square, and lighted by a skylight on the north side of the roof. A revolving table is in the centre of the room; also a cupboard for instruments, sponges, microscope, etc., with a sink in the northwest corner. The Examining-room adjoining it is 17 feet 7 inches square, and communicates by a door with the operating-room.

The *Extra-diet Kitchen* is under the same roof with the general kitchen. It is 18 by 24 feet—has in it a Harrison's European range, 8 feet front, 3 feet 6 inches deep. A room 18 by 12 feet adjoins on the south. This kitchen is under the supervision of a sister, who is generally assisted by from four to six men.

The *Main Kitchen* is 77 by 24 feet. It contains a cooking-range, 28 feet 10 inches long and 3 feet 2 inches wide; also three of "Peters' and Johnson's bake-ovens or roasters," two boilers for tea and coffee, each with a capacity of 120 gallons, five boilers or cauldrons for soup or hash (60 gallons each), and two for heating water, (one 60 gallons, the other 22 gallons). Full diet is prepared here for all the men in the hospital.

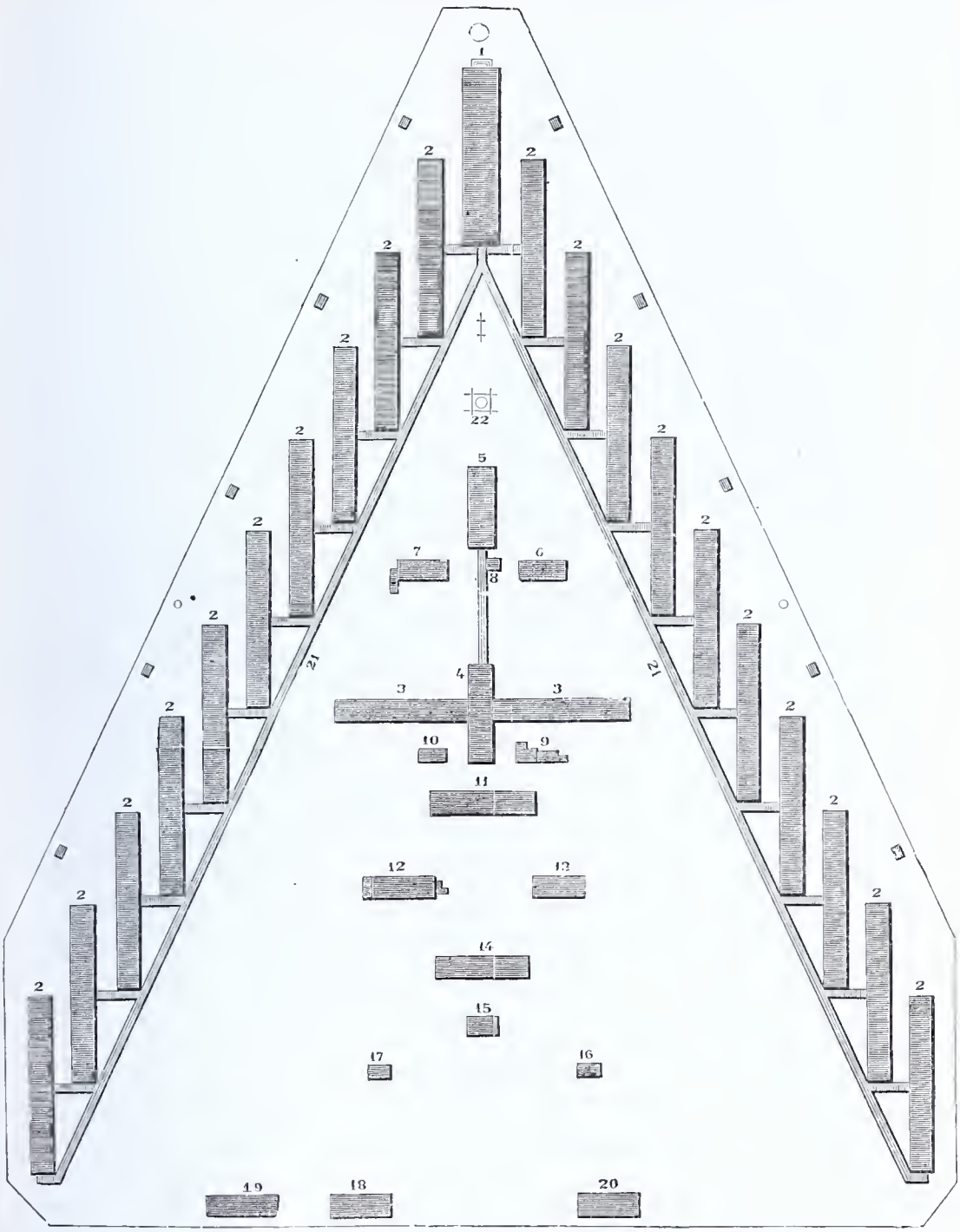


FIG. 1.—GROUND PLAN OF LINCOLN GENERAL HOSPITAL, WASHINGTON, D. C. Scale, 200 feet to the inch. 1, Administration building 2 2 2 2, Wards. 3 3, Dining-rooms. 4, Kitchen. 5, Laundry. 6, Stewart's quarters. 7, Sisters' quarters. 8, Engine-house. 9, Meat-house. 10, Coal-house. 11, Commissary building. 12, Sutler. 13, Chapel. 14, Stable. 15, Freedmen's quarters. 16, Guard-house. 17, Dead-house. 18, Barracks for guard. 19, 20, Officers' quarters. 21, Covered way. 22, Tank.

On either side of the kitchen, opening from it north and south, are the *Dining-rooms*, each 146 by 24 feet, with three tables running the whole length of each, capable of seating in all 860 men. At the distal end of each room a door opens on a corridor and raised walk, so that the patients are protected from the weather in coming to their meals. Cars, with cans fitted in them, are run around the corridors to the several wards with the food for those unable to come to the dining-room.

On the northwest corner of the kitchen is a room 30 feet long, 14 feet wide, and 10 feet high, used for washing dishes, roasting coffee, etc. From 40 to 50 men are usually employed in the various departments of the kitchen.

Opposite the centre of the northern dining-room and distant to the west 30 feet, is the *Fire-Engine and Hose-House*, 26 by 20 feet—contains one fire-engine, three hose-carriages, carrying 1850 feet of hose, 34 ladders, 22 hooks, 278 axes, and 300 buckets.

Thirteen feet south of the kitchen is the *Meat-shop*, 14½ by 23. In its centre is an ice-box, 3½ by 14½, and 4 feet deep, lined with zinc. The allowance of ice per day is one pound for each man.

East of the kitchen, and connected by a covered way, is the *Commissary Building*, which is two stories high; the upper story is used to lodge attendants; the lower story, used for commissary store-room, is 82 by 23½, and is under a commissary steward. In the northeastern corner is the liquor-room, 8½ by 13, heavily planked and secured against marauders. All liquor is issued here on the orders of the ward surgeons. The vegetable room is in the northwestern corner, and is 9 by 13½. An office, 9 by 15½, adjoins the liquor-room. The books and accounts are kept in this office. The store-room is provided with a counter 52½ feet long, and gives employment to one steward, one clerk, and two men. At the southern end is the bread-room, 14½ by 23, which employs two men cutting bread for the tables. Adjoining, on the east, is the bakery, 14 by 23½. The oven is 10 by 16 feet.

The *Chapel* is situated 63 feet east of the commissary building. It is a structure shaped like the letter "T," one story in height, with a cupola on top. The main building is 24 by 78 feet. The northern end is used during the week as a reading-room. The left wing, 18 by 26 feet, is used as a library; it contains 3,000 volumes, contributed to the hospital from various sources. The right wing is the same size, and is used as a school for the freedmen employed in the hospital, who are instructed by two female teachers.

Twenty-four feet south of the chapel is the *Sutler's Store*, 24 by 68. The *Stables*, 25 by 101, are 72 feet east of the suttler's shop; they contain 18 horses, 3 wagons, 3 ambulances, 3 carts, and 1 night-cart. Thirteen men are employed as hostlers, drivers, etc. One hundred and twenty-one feet northeast of the stables is the *Guard-House*, 15 by 47 and one story high. South of this are the *Oil-Room* and *Freedmen's Quarters*, 29 by 69 feet. The oil and lamp room is in the northern part. Kerosene oil was used in lighting the whole hospital, and all the lamps were filled and trimmed in this room. A corporal and two men were employed. Ninety-one feet southeast of the oil-room is the *Dead-House*, 15 by 40 feet. It is divided into two rooms—the northern one used in making post-mortem examinations, and the southern for plaster-casts, etc. Thirty-two feet south of this room is the *Photographic Gallery*, 16 by 24 feet. An operator is employed at $100 per month, paid from the slush fund. Surgical cases, pathological specimens, etc., are taken; also likenesses of all men discharged on surgeon's certificate of disability, as a guard against fraud. On the base line of the triangle are the *Medical Officers' Quarters*, 63 by 24 and two stories in height; also, in the same line, the quarters for the *Veteran Reserve Corps*, a building two stories high, with an outside entrance-stairway to the second floor. Ninety feet further back, 100 hospital tents are pitched, placed four end to end, on substantial frames, with floors raised from the ground and a door at each end of the frame. The sides of these tents were always easily raised, and gave the best of ventilation; hence I selected some of them as gangrene-wards, and, I think, with the very best results. In winter, each ward was heated by two stoves, with pipes running to a shaft in the centre. Each ward of four tents contained 20 beds. The length of the fence around the hospital is 1458 yards. The distance of the fence from the tents at the base of the triangle is 124 feet. Sinks were arranged around the whole line of fence. They had movable boxes, which were regularly emptied and limed. Policing was done by a gang of about 20 freedmen. The hospital could accommodate 1240 patients in the 20 barrack wards. Its total capacity in January,

1865, was 2575 beds, including those in tents and the branch barracks, a short distance off.

This hospital was opened December 23, 1862, and closed August 22, 1865. During this period the movements of patients were as follows:

	ADMITTED.					RESULTS.						
	Sick.	Wounded.	Total.	Returned from furlough and desertion.	Aggregate.	Returned to duty and mustered out.	Sent to general hospital.	Furloughed.	Transferred to Veteran Reserve Corps.	Discharged.	Deserted.	Died.
White troops ..	12391	7837	20228	3565	23793	7191	9411	4400	392	1053	286	1060
Colored troops.	13	5	18	.....	18	.....	18	.....	.....	.....	.....	.....
Prisoners of War	174	959	1133	.....	1133	.....	924	.....	.....	45	3	161
Total.....	12578	8801	21379	3565	24944	7191	10353	4400	392	1098	289	1221

Deducting those sent to general hospital as cases not terminated, and considering that furloughed and deserted amounted to 4686, while only 3565 of these are reported as returned from furlough and desertion, we shall have the following statistics for the *terminated cases of white troops* treated:

Total to be accounted for, excluding those sent to other hospitals, 10,817; of whom 6339 were returned to duty, 852 mustered out of service at the close of the war, 1121 lost by desertion and failure to return from furlough, 1053 discharged for disability, 392 transferred to Veteran Reserve Corps, and 1060 died.

4.—Model of the Mower Hospital, Philadelphia, Pa.

This is a block-model on the scale of 30 feet to the inch. The following description is condensed from an inspection report by Medical Inspector John L. Le Conte, U. S. A.:

The Mower Hospital is situated on an elevated plateau in the village of Chestnut Hill, about 9 miles north of the city of Philadelphia. It is on the eastern side of the railroad, and trains from Philadelphia pass every two hours. The total capacity of the hospital is 3600 beds.

It is constructed of wood in the best manner, lined with smooth planks on the inside, and lathed and plastered on the outside. It consists of 50 *pavilions*, radiating from a corridor of a rectangular form, with rounded angles. The corridor is 16 feet wide and 2400 feet long, enclosing a space of 7 acres. The *Administration Building* is located in the centre of the enclosed space. This building is connected with the wards by a transverse corridor. (See Fig. 2.)

A third corridor connects the entrance to the hospital with the administration building, thus dividing the enclosure into three sections. Within the enclosure are the chapel and Bible-class room, laboratory, carpenter's shop, dining-room for attendants, boiler-room, general and extra-diet kitchen, butcher's-house, milk-house, operating-room, and dead-house, guard-house, and sutler's shop.

In the rear and on each side of the hospital are two buildings, each in the form of the letter L, and each connected with body of hospital by means of a corridor.

One-half of the one located on the northeastern extremity of hospital is used as a *barracks for convalescents*. The lower floor of the other half is occupied by the *Quartermaster's* and *Medical Purveyor's stores*, while the upper floor is used for offices and *quarters of officers of Veteran Reserve Corps*.

One-half of the other L-shaped building, which is situated in the northwestern extremity of the hospital, is used as *barracks for non-commissioned officers and pri-*

vates of the Veteran Reserve Corps, the other half as a dining-room for the occupants of both barracks.

Forty-seven of the pavilions are used as *wards* for patients. Each pavilion is 175 feet long, 20 feet wide, 13 feet high to the eaves, and 19 feet to the ridge. The *Dining-room* at the entrance to each ward is 10 by 20 feet; the *Scullery* adjoining, 8 by 10 feet. At the opposite end of building is a ward-master's room 10 by 12 feet, a *Wash-room* 8 by 10 feet, *Water-closet* 12 by 6 feet, and in an adjoining building, 10 by 12 feet, a *Bath-room*.

The ward proper is 150 by 20 feet. Each ward contains 61 beds. The officers are located in the *Administration building*, on the first floor. In addition to those belonging to the surgeon in charge, there is an executive office and an office for the transaction of the general business of the hospital.

Adjoining the general office is the *dispensary*, 14½ by 60 feet, with a *Store-room* in the rear, 29 by 30 feet. Opposite the general office is the *Medical Officers' mess-room*, 14 by 79 feet.

The second story is divided into 32 rooms, used as *quarters for Medical Officers*.

The *Operating-room* is in a separate building, 25 by 40 feet, situated to the right of the corridor connecting the entrance with the administration building. This building is divided into two rooms. The rear room is a lecture-room, containing seats for 100 persons, where all operations are performed. This room contains closets for instruments, dressings, &c., and the medical library and pathological cabinet of the hospital. The front room, 13 by 25 feet, is used as a *Dead-house*, and contains all the conveniences for post-mortem examinations, and a vault 8 feet long, 4 feet wide, and 12 feet deep, with windlass and dumb-waiter, for the reception of deceased soldiers preparatory to their burial.

Near the operating room is the *Guard-house*, which is strongly built, and contains a room 20 by 15 feet, for the guards, and six small cells for prisoners; it is also provided with a water-closet. Alongside of the guard-house is the *Sutler's shop*, 16 by 50 feet, connecting by a passage way with the main corridor.

The pavilion to the right of the entrance is divided into 3 rooms; the front and largest is used as a *Knapsack-room;* the two smaller ones are used by the band. The pavilion on the left of the entrance is two stories high. On the lower floor is the reception-room, mess-room for stewards, closets, &c., and the *Laundry*. The second story is used as a *Barracks for Attendants*. The pavilion next on the left of this is used for the commissary stores, bread-room, and quarters for stewards.

On the left of corridor connecting the entrance with the administration building is the *General Kitchen*, 30 by 110 feet. It contains three large-sized hotel ranges, and three London kitcheners, eight double-jacketed steam kettles for soup, and three large-sized cooking-stoves. At one end of the kitchen is the steward's room and pantry, and the other the surgeon's kitchen. In the rear of the general kitchen is the boiler-room, 29 by 29½ feet, containing two large boilers, a steam force-pump and fire-engine. On the left of the general kitchen is a *large Dining-room*, 150 by 30 feet, for attendants, the *Carpenter's shop*, 20 by 50 feet, and the *Chapel*, 60 by 75 feet, the latter connected with main corridor by means of a passage way. The chapel is used as a *Reading-room* by the patients during week-days, and contains a *Library* of 2400 books. In the rear of the chapel is a *Bible-class room*, 25 by 30 feet.

In the angle formed by the union of main corridor with corridor leading from chapel are the *Post-office* and *Barber shop*. To the right of the corridor connecting entrance with the administration building is the *extra-diet Kitchen*, 30 by 30 feet, containing one large London kitchener complete. The *Milk-house* and *Butcher shop* are also on the right of the corridor.

The *supply of water* is received from the Chestnut Hill water-works into four large tanks, in the second story of the administration building, capable of holding 18,000 gallons each, and into two large tanks at the junction of the transverse with the main corridor, which hold 15,000 gallons each.

The *sewerage* consists of two large drains, one extending around the outside of the hospital, which is a brick culvert 20 by 30 inches in diameter, into which the water-closets, wash-rooms, and bath-rooms of the wards empty. The second runs outside of the corridor but within the enclosure, and is a drain of terra-cotta pipe 14 inches in diameter, which carries off the waste water from the sculleries of the

wards. Emptying into this smaller drain are others leading from the different buildings of the hospital. Both these drains unite at the southeastern extemity of the hospital, forming one large sewer, which empties its liquid contents into a creek distant from hospital half-a-mile. The solid contents of sewer are removed once every four months.

The hospital is *ventilated* by the "ridge" method, and by square holes through the sides of the wards flush with the floor. It is heated by coal stoves, and lighted by gas.

The hospital is well supplied with all necessary *apparatus for subduing* fire. The enclosure is divided into four districts, and each district and ward is connected with the administration building by means of a telegraph. In case of fire, the alarm is struck by pulling the wire in the corridor, the bell striking the number corresponding with the number of the district in which the fire exists.

There is one hose-carriage in each fire quarter, and each district is well supplied with hose, fire-buckets, fire-axes, and ladders. A well organized fire-brigade exists in the hospital, the members of which are drilled regularly three times a week.

The tanks inside of the corridor and outside within the enclosure are constantly kept filled with water.

This hospital was opened December 24, 1862, and closed November 14, 1865. During this period the movements of patients were as follows:

	Admitted.					Results.								
	Sick.	Wounded.	Total.	Returned from furlough and desertion.	Aggregate.	Returned to duty.	Mustered out.	Sent to other general hospitals.	Furloughed.	Transferred to Veteran Reserve Corps.	Discharged.	Deserted.	Died of Disease.	Died of wounds.
White troops	11797	10037	21834	4457	26291	10106	1989	4878	4499	865	1937	1695	248	74
Colored troops	22	17	39	.....	39	2	1	16	.....	.....	17	.....	3	.....
Total	11819	10054	21873	4457	26330	10108	1990	4894	4499	865	1954	1695	251	74

Deducting those sent to other general hospitals as cases not terminated, and considering that the furloughed and deserted amounted to 6194, while only 4457 of these are reported as having returned, we shall have the following statistics for the *terminated cases of white troops* treated:

Total to be accounted for, excluding those sent to other hospitals, 16,956; of whom 10,106 were returned to duty, 1989 mustered out of service at the close of the war, 1737 lost by failure to return from furlough and desertion, 1937 discharged for disability, 865 transferred to the Veteran Reserve Corps, and 322 died.

5.—Hospital Tents.

The field hospital of the moving army consists of one hospital tent for a dispensary tent; one hospital tent for a squad tent; one hospital tent for a mess tent; two hospital tents for the reception of the sick; one common tent for a cook tent; one common tent for the medical officer; one common tent for water-closet. The new field outfit for the Medical Department is displayed in the ward, mess, dispensary, and cook tents, for a detailed list of which see the standard supply table.

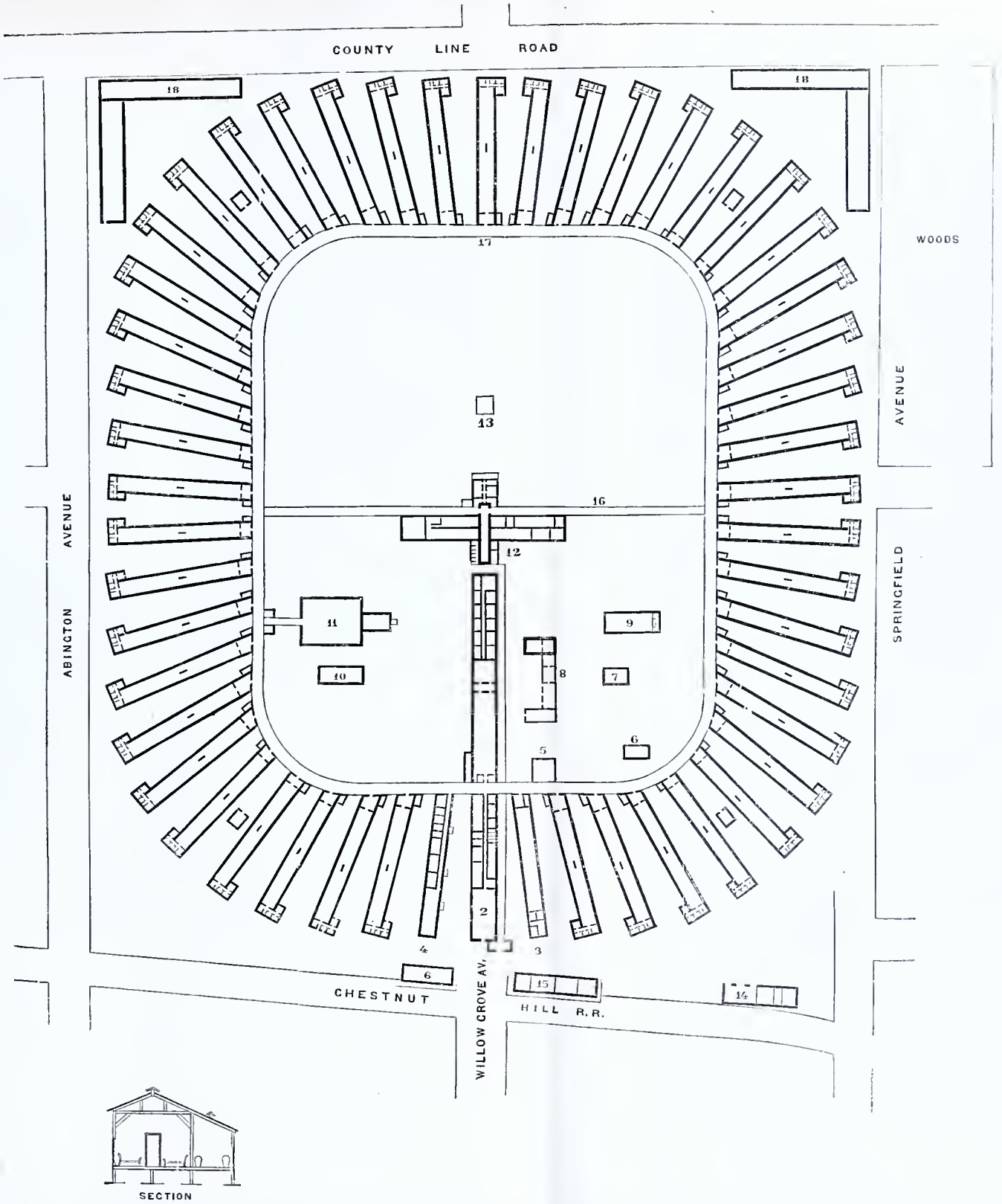


FIG. 2.—GROUND PLAN OF MOWER HOSPITAL, PHILADELPHIA, PA. Scale, 195 feet to the inch. 1 1 1 1, Wards. 2, Reception-room, laundry, &c. In the building between this and 12 is the kitchen, &c. 3, Knapsack-room, band quarters, &c. 4, Store-rooms, &c. 5, Operating-room. 6, Butcher's shop 7, Guard-house. 8, Boilers, coal, &c. 9, Sutler. 10, Carpenter's shop. 11, Chapel. 12, Administration building. 13, Ice-house. 14, 15, Railroad depots. 16, 17, Corridors. 18, 18, L-shaped buildings used as barracks, store-rooms, &c.